Date: Thu, 30 Jun 94 21:04:51 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #726
To: Info-Hams

Info-Hams Digest Thu, 30 Jun 94 Volume 94 : Issue 726

Today's Topics:

Address for Wyle Electronics
AEA IsoLoop - Opinion
Automatic HF channel allocation
Daily Summary of Solar Geophysical Activity for 29 June
FIELD DAY 1994 REPORT
help w/ yaesu pa-6
IPS Daily Report - 30 June 94
R/C model antenna orientation?
Temp. Conversion Chart: F & C?
Ten Tec PTO rebuild
Unsubscribe

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 30 Jun 1994 21:46:34 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!swrinde!cs.utexas.edu!
geraldo.cc.utexas.edu!ziggy.ph.utexas.edu!bsn@network.ucsd.edu
Subject: Address for Wyle Electronics
To: info-hams@ucsd.edu

I would like the address and tel/fax no for Wyle Electronics.

Thanks,
Barry W5KH

Date: Thu, 30 Jun 1994 09:34:48 GMT
From: swrinde!gatech!usenet.ins.cwru.edu!lerc.nasa.gov!magnus.acs.ohio-state.edu!
csn!col.hp.com!news.dtc.hp.com!hpscit.sc.hp.com!lf.hp.com!apollo.hp.com!
hpwin055.uksr!@@ihnp4.ucsd.edu
Subject: AEA IsoLoop - Opinion
To: info-hams@ucsd.edu

Alan Bloom (alanb@hpnmarb.sr.hp.com) wrote:

: The laws of physics show no such thing. It is theoretically possible
: for a small loop to be 100% efficient. It's true that it's hard to
: approach that ideal in practice, but the Isoloop comes impressively
: close.

  A number of bad loops with lots of joints and sliding-contact capacitors have created a folklore that all capacitor-loaded small loops must be bad, very bad. It's famously difficult to overcome bad press.

  Given the differences between horizontal and vertical mounting, I think AEA shot themselves in the foot (or more vital area?) by filling the world with photos of their thing deployed horizontally. Quite a lot of people don't read but just look at the pictures :-)

  100% efficiency can be approached, and the result on transmit is easily understood; all the watts you stuff up the cable get radiated. On receive, it is possible to get different levels of output from different 100% efficient, perfect, lossless antennae. The difference is in the effective capture area of different designs. The idea of antenna reciprocity is founded on a pathetic algebraic fudge by comparing to a half-wave dipole, and then sticking a frequency term into the standard equations for path attenuation. Path attenuation is not directly freq dependant, the term is a fix for the fact that at higher frequencies, half wave dipoles are smaller and have a smaller capture area, so collect less power from a given power flux density. I'd much rather see antenna effects assigned to the antenna, not the path. It makes a simple subject very confusing for beginners.

Hobby horse done with.

   On RX smaller loops, still lossless, would yield smaller outputs, think of a range of 100% efficient solar cells, all of different sizes, operated side by side in the same lighting conditions. On the low bands, the fight is not to get enough signal, but to try to get less noise. Loops make rotatable low band antennae possible, to allow nulls to be oriented onto QRM sources to help reception. On high bands in small signal conditions, then a small antenna becomes a problem, given limits on Rx sensitivity.

Someone with little space has little choice, and a loop is a prime candidate. Even so, it is worth their while to find out about how to pick an efficient one and how to orient it.
Someone with plenty of space and big antennae can still benefit from some loop characteristics, it is an antenna worth having for RX when conditions get difficult with QRM, especially on LF. It takes an open mind and a willingness to risk being seen using something that looks embarassingly unimpressive.

: As I said before, however, I am not a big Isoloop fan. I still think
: $300 is a lot to pay for an antenna that performs almost as well as a
: dipole. But for some situations, it might make sense.

A crazy price to pay for something that can be built from junk, and it sugically removes the fun and educational dimensions.

: That criticism might be valid for some antennas on the market (the
: similarly-named "Isotron" is one that comes to mind), but the Isoloop
: works as claimed and is a perfectly reasonable antenna to use.
: AL N1AL

I noticed that the chap who criticised the isoloop had no idea what the tuning box did. Would he accept the criticism of his favourite antenna by someone else who bought one, put it up (possibly oriented the least effective way) and had no idea of the tuning of element lengths ?

I'd rather have a quad or beam than a high band loop, loops are not perfect, and not up to a good dipole, but are not as bad as some people suggest. They also have a couple of useful properties.

I met that Maxcom dummy load resistor +whip thing at G3RJV's famous QRP vicarage Christmas party, with a room full of QRPers helpless with laughter. Some folk Do fool enough of the people enough of the time, I suppose.

Cheers
David

GM4ZNX

Date: 1 Jul 1994 03:05:56 GMT
From: ihnp4.ucsd.edu!munnari.oz.au!yarrina.connect.com.au!
harbinger.cc.monash.edu.au!mdw074.cc.monash.edu.au!saisk1@network.ucsd.edu

Subject: Automatic HF channel allocation
To: info-hams@ucsd.edu

Re: Automatic Allocation of HF radio channels

As part of my final year Electrical Engineering thesis project at Monash University in Melbourne, Austrlia, I have undertaken to research into 'Self Tracking Automatic HF Optimisation of Voice and Data'. The project work is on behalf of Melbourne based company, BHP Petroleum that make great use of telecommunication equipment in remote locations both locally and overseas.

The latest equipment I came across that handles automatic allocation of HF channels is the Automatic Link Establishment (ALE) 1045 controller.

I managed to get a copy of a brochure on ALE 1045 detailing its possible arrangement in conjunction with a PC, high speed data modem and an HF radio.

Having also read through the US Federal Standards 1045 on ALE titled 'Telecommunications: Radio Automatic Link Establishment', I would greatly appreciate further information on ALE or relevant equipment and about the possibility of transmitting voice as well as data using this system.

Could someone please clarify the following points:

AA) Is it viable to digitize and compress voice before transmitting it as data blocks but switching off the 'retransmission' mode to prevent echoes? What type of Codec might be suitable for voice digitisation?

BB) Can an ALE system be used to allocate the optimum HF channel at regular intervals and switch over to normal analog voice communication?

Any references to literature or technical articles would also be much appreciated.

Thanking in advance,

Shiraz Iskenderian,
Monash University.
saisk1@ccds.cc.monash.edu.au

Date: Wed, 29 Jun 1994 22:08:13 MDT

From: ihnp4.ucsd.edu!library.ucla.edu!news.mic.ucla.edu!unixg.ubc.ca!
quartz.ucs.ualberta.ca!alberta!ve6mgs!usenet@network.ucsd.edu
Subject: Daily Summary of Solar Geophysical Activity for 29 June
To: info-hams@ucsd.edu

/\

DAILY SUMMARY OF SOLAR GEOPHYSICAL ACTIVITY

29 JUNE, 1994

/\

(Based In-Part On SESC Observational Data)

SOLAR AND GEOPHYSICAL ACTIVITY INDICES FOR 29 JUNE, 1994

!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 180, 06/29/94
10.7 FLUX=079 90-AVG=079 SSN=032 BKI=3543 2333 BAI=019
BGND-XRAY=A4.4 FLU1=1.1E+06 FLU10=1.4E+04 PKI=4543 3344 PAI=021
BOU-DEV=036,107,047,027,018,026,028,032 DEV-AVG=040 NT SWF=00:000
XRAY-MAX= C1.2 @ 2148UT XRAY-MIN= A4.0 @ 1140UT XRAY-AVG= B1.1
NEUTN-MAX= +002% @ 2135UT NEUTN-MIN= -002% @ 0120UT NEUTN-AVG= +0.2%
PCA-MAX= +0.1DB @ 2150UT PCA-MIN= -0.1DB @ 2125UT PCA-AVG= +0.0DB
BOUTF-MAX=55322NT @ 0330UT BOUTF-MIN=55297NT @ 2150UT BOUTF-AVG=55312NT
GOES7-MAX=P:+000NT@ 0000UT GOES7-MIN=N:+000NT@ 0000UT G7-AVG=+066,+000,+000
GOES6-MAX=P:+136NT@ 2103UT GOES6-MIN=N:-072NT@ 0324UT G6-AVG=+093,+037,-031
FLUXFCST=STD:080,080,080;SESC:080,080,080 BAI/PAI-FCST=020,020,020/020,020,020
KFCST=4454 3323 4454 3223 27DAY-AP=019,019 27DAY-KP=4444 3333 4433 3334
WARNINGS=
ALERTS=
!!END-DATA!!

NOTE: The Effective Sunspot Number for 28 JUN 94 was 30.1.
The Full Kp Indices for 28 JUN 94 are: 4- 2- 2- 3- 3- 3o 3o 5-
The 3-Hr Ap Indices for 28 JUN 94 are: 21 7 6 14 11 15 15 37
Greater than 2 MeV Electron Fluence for 29 JUN is: 4.3E+07

SYNOPSIS OF ACTIVITY

Solar activity was very low. However, flare frequency increased over the last 24 hours. Region 7742 (S09E42) produced occasional small subflares, the largest a B9/0F at 1445Z. A weak delta remains in the leader spots. The other spotted

region visible, Region 7743 (S10E54), was quiet. Other activity of interest included an eruptive prominence from N10E90 at approximately 1335Z.

Solar activity forecast: solar activity is expected to be very low. Region 7742 may generate an isolated C-class event should further development occur.

The geomagnetic field varied from quiet to minor storm levels. Local nighttimes had the most disturbed periods. The greater than 2 MeV electron flux was at moderate to high levels.

Geophysical activity forecast: the geomagnetic field is expected to be generally active, with nighttime substorms persisting through the interval.

Event probabilities 30 jun-02 jul

Class M	01/01/01
Class X	01/01/01
Proton	01/01/01
PCAF	Green

Geomagnetic activity probabilities 30 jun-02 jul

A. Middle Latitudes	
Active	40/40/40
Minor Storm	30/30/30
Major-Severe Storm	10/10/10
B. High Latitudes	
Active	30/30/30
Minor Storm	40/40/40
Major-Severe Storm	20/20/20

HF propagation conditions were normal over the low and middle latitudes. High and polar latitudes were also mostly near-normal, although night-sector substorming produced occassional minor signal degradation during the local night time. Similar conditions are expected for the next 72 hours.

COPIES OF JOINT USAF/NOAA SESC SOLAR GEOPHYSICAL REPORTS

REGIONS WITH SUNSPOTS. LOCATIONS VALID AT 29/2400Z JUNE

```
NMBR LOCATION  LO  AREA  Z   LL   NN MAG TYPE
7742  S09E42  229  0180 DAO  05  011 BETA-DELTA
7743  S10E54  217  0030 HRX  01  001 ALPHA
7737  S11W87  358                   PLAGE
7741  N05W63  334                   PLAGE
REGIONS DUE TO RETURN 30 JUNE TO 02 JULY
NMBR LAT    LO
7733 N05   170
7734 N11   151


LISTING OF SOLAR ENERGETIC EVENTS FOR 29 JUNE, 1994
---------------------------------------------------
A.  ENERGETIC EVENTS:
BEGIN  MAX  END  RGN   LOC   XRAY  OP 245MHZ 10CM   SWEEP
NONE


POSSIBLE CORONAL MASS EJECTION EVENTS FOR 29 JUNE, 1994
-------------------------------------------------------
 BEGIN        MAX      END     LOCATION   TYPE   SIZE  DUR  II IV
29/B1335             1427       N10E90   EPL
29/ 2000            B2032       S17W04   DSF


INFERRED CORONAL HOLES. LOCATIONS VALID AT 29/2400Z
---------------------------------------------------
              ISOLATED HOLES AND POLAR EXTENSIONS
      EAST   SOUTH  WEST   NORTH  CAR  TYPE  POL  AREA   OBSN
89   S19E46 S27E39 S08E16 N08E44  238  ISO   POS   009 10830A


SUMMARY OF FLARE EVENTS FOR THE PREVIOUS UTC DAY
------------------------------------------------

 Date   Begin  Max   End  Xray  Op Region  Locn    2695 MHz  8800 MHz  15.4 GHz
------  ----  ----  ----  ----  -- ------ ------  --------- --------- ---------
28 Jun: 1127  1134  1141  B1.6
        1335  1343  1351  B1.6
        2017  2020  2022  B1.1


REGION FLARE STATISTICS FOR THE PREVIOUS UTC DAY
------------------------------------------------

               C   M   X     S   1   2   3   4   Total   (%)
              --  --  --    --  --  --  --  --    ---  ------
Uncorrellated: 0   0   0     0   0   0   0   0    003  (100.0)
```

Total Events: 003 optical and x-ray.

EVENTS WITH SWEEPS AND/OR OPTICAL PHENOMENA FOR THE LAST UTC DAY

Date	Begin	Max	End	Xray	Op	Region	Locn	Sweeps/Optical Observations
28 Jun:	1335	1343	1351	B1.6				III

NOTES:

All times are in Universal Time (UT). Characters preceding begin, max, and end times are defined as: B = Before, U = Uncertain, A = After. All times associated with x-ray flares (ex. flares which produce associated x-ray bursts) refer to the begin, max, and end times of the x-rays. Flares which are not associated with x-ray signatures use the optical observations to determine the begin, max, and end times.

Acronyms used to identify sweeps and optical phenomena include:

II	= Type II Sweep Frequency Event
III	= Type III Sweep
IV	= Type IV Sweep
V	= Type V Sweep
Continuum	= Continuum Radio Event
Loop	= Loop Prominence System,
Spray	= Limb Spray,
Surge	= Bright Limb Surge,
EPL	= Eruptive Prominence on the Limb.

** End of Daily Report **

Date: 30 Jun 1994 22:08:01 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!news-feed-1.peachnet.edu!news.duke.edu!godot.cc.duq.edu!newsfeed.pitt.edu!dsinc!netnews.upenn.edu!netnews.upenn.edu!yee@network.ucsd.edu
Subject: FIELD DAY 1994 REPORT
To: info-hams@ucsd.edu

I went with a local club which ran a 9A station. Had a ball but learned a big lesson. DO NOT bring your girlfriend with you. I had to leave early since she got bored. C'est la vie.

--
Medical Image Processing Group | 73 de Conway Yee, N2JWQ
411 Blockley Hall | EMAIL   : yee@mipg.upenn.edu
423 Guardian Drive | TELEPHONE : 1 (215) 662-6780
Philadelphia, PA 19104-6021 (USA) | FAX   : 1 (215) 898-9145

Date: 1 Jul 1994 01:05:45 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!spool.mu.edu!nigel.msen.com!
heifetz.msen.com!koechig@network.ucsd.edu
Subject: help w/ yaesu pa-6
To: info-hams@ucsd.edu

I have the Yaesu PA-6 dc car adapter which worked fine when new but has
recently developed a problem. When plugged into the source and not under load
it has the required voltage present but under load it dies. I suspect it
to be the voltage regulator inside but I'm not positive. How do I check
the regulator and if it is the regulator, can I use any comparable
regulator with no problem?

Thanks,

Bill Koechig,
N8PKA
Pontiac, MI

Date: Thu, 30 Jun 1994 23:34:55 GMT
From: swrinde!gatech!newsxfer.itd.umich.edu!zip.eecs.umich.edu!umn.edu!zib-
berlin.de!zrz.TU-Berlin.DE!netmbx.de!Germany.EU.net!EU.net!sunic!trane.uninett.no!
ifi.uio.no!wabbit.@ihnp4.ucsd.edu
Subject: IPS Daily Report - 30 June 94
To: info-hams@ucsd.edu

SUBJ: IPS DAILY SOLAR AND GEOPHYSICAL REPORT
ISSUED AT 30/2330Z JUNE 1994 BY IPS RADIO AND SPACE SERVICES
FROM THE REGIONAL WARNING CENTRE (RWC), SYDNEY.
SUMMARY FOR 30 JUNE AND FORECAST UP TO 3 JULY

IPS Disturbance Warning 17 was issued on 22 June and is current for
interval 24 June to 4 July

1A. SOLAR SUMMARY
Activity: low

Flares   Max   Fadeout   Begin   End   Freq. Sectors

```
 M2/--    2124UT  possible                  lower  East Pacific/
                                                  North American

Observed 10.7 cm flux/Equivalent Sunspot Number : 083/024

GOES satellite data for 29 June
       Daily Proton Fluence >1 MeV:   1.1E+06
       Daily Proton Fluence >10 MeV:  1.4E+04
       Daily Electron Fluence >2 MeV: 4.3E+07
       X-ray background: A4.4
Fluence (flux accumulation over 24hrs)/ cm2-ster-day.

1B. SOLAR FORECAST
             01 July           02 July           03 July
Activity     Low               Low               Low
Fadeouts     None expected     None expected     None expected

Forecast 10.7 cm flux/Equivalent Sunspot Number : 085/027

1C. SOLAR COMMENT
Rgn 7742 produced the M2 flare. It has exhibited moderate growth
in recent days, but is not currently expected to produce further
significant activity.
-------------------------------------------------------------
2A. MAGNETIC SUMMARY
Geomagnetic field at Learmonth: unsettled to active

Estimated Indices : A   K           Observed A Index 29 June
    Learmonth       19  4434 3333
    Fredericksburg  16                        22
    Planetary       18                        21

Observed Kp for 29 June: 4543 3344


2B. MAGNETIC FORECAST
DATE      Ap    CONDITIONS
01 Jul    20    Unsettled to active.
02 Jul    20    Unsettled to active.
03 Jul    20    Unsettled to active.

2C. MAGNETIC COMMENT
None.
-------------------------------------------------------------
3A. GLOBAL HF PROPAGATION SUMMARY
                LATITUDE BAND
DATE        LOW            MIDDLE         HIGH
30 Jun      normal         fair-normal    poor-fair
```

PCA Event : None.
3B. GLOBAL HF PROPAGATION FORECAST

	LATITUDE BAND		
DATE	LOW	MIDDLE	HIGH
01 Jul	normal	fair-normal	poor-fair
02 Jul	normal	fair-normal	poor-fair
03 Jul	normal	fair-normal	poor-fair

3C. GLOBAL HF PROPAGATION COMMENT
Continuing geomagnetic activity may degrade propagation conditions at
mid and high lats.

4A. AUSTRALIAN REGION IONOSPHERIC SUMMARY
MUFs at Sydney were near predicted monthly values

Observed T index for 30 June: 28

Predicted Monthly T Index for June is 30.

4B. AUSTRALIAN REGION IONOSPHERIC FORECAST

DATE	T-index	MUFs
01 Jul	25	Near predicted monthly values.
02 Jul	20	Near predicted monthly values.
03 Jul	25	Near predicted monthly values.

4C. AUSTRALIAN REGION COMMENT
Regular Sporadic E layer and occasional Spread F may have degraded
local propagations conditions yesterday. Similar conditions are
expected for today.

--
IPS Regional Warning Centre, Sydney |IPS Radio and Space Services
email: rwc@ips.oz.au fax: +61 2 4148331 |PO Box 5606
RWC Duty Forecaster tel: +61 2 4148329 |West Chatswood NSW 2057
Recorded Message tel: +61 2 4148330 |AUSTRALIA

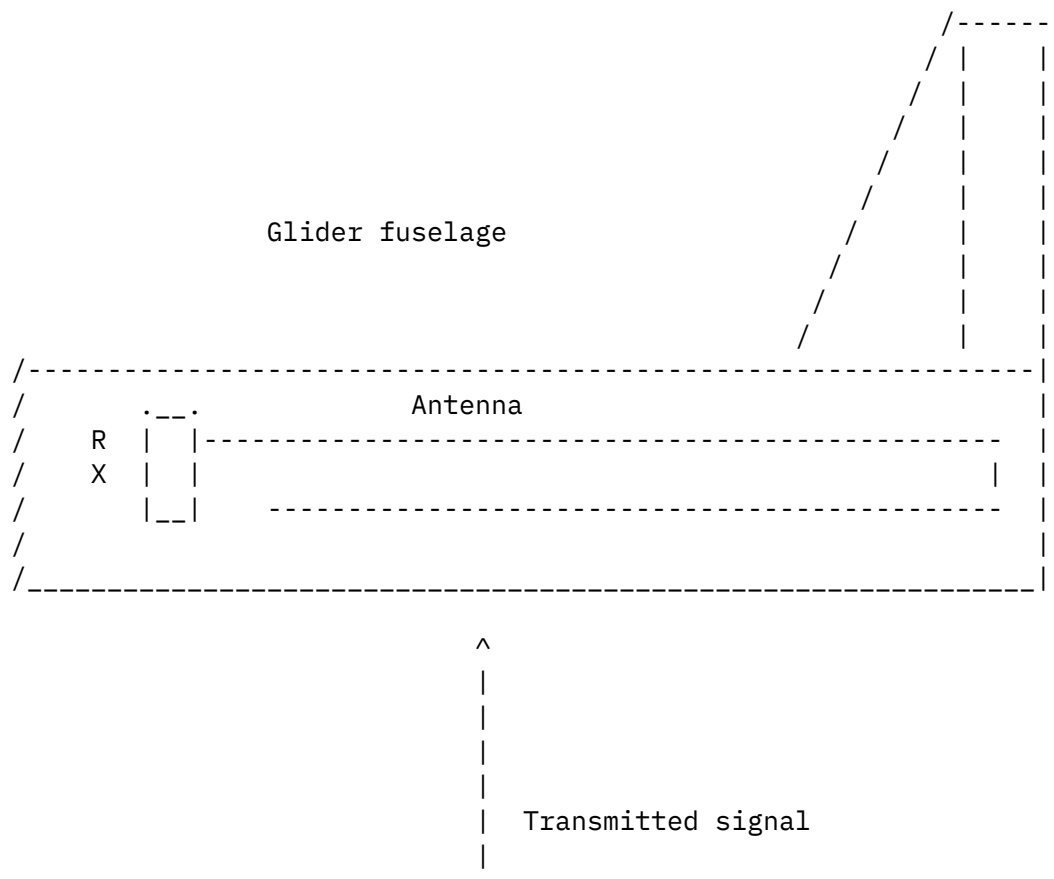
Date: 1 Jul 1994 00:29:53 GMT
From: ihnp4.ucsd.edu!agate!dls@network.ucsd.edu
Subject: R/C model antenna orientation?
To: info-hams@ucsd.edu

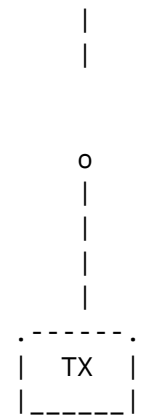
I wonder if any interested ham operators can help me with an antenna
question. I am not a ham myself, but sing the praises of you guys
all the time, and find myself now with a question that I need help with.

I fly radio controlled model gliders, using one of the assigned

channels in the 72 MHz band. The typical receiver for these model aircraft has an antenna consisting of about a 40" length of slender flexible wire extending out the rear of the receiver case, which itself is usually mounted near the front of the glider fuselage. It has been my habit to extend this antenna rearward through the aircraft fuselage and out the back, such that when the model is airborne, the airstream tends to extend the hanging portion of the antenna and it appears to the environment like a horizontally oriented item. For cosmetic reasons, i.e., so as not to have unsightly wire hanging out the rear of the model, I am tempted to loop the antenna back on itself inside the fuselage.

If I extend the antenna through the fuselage, and then loop it 180 degrees back towards the front, am I creating a situation whereby the received signals on the two antenna halves are effectively cancelled out (exactly out of phase), leading to zero received signal? Please see the crude diagram below. The spacing between the looped antenna halves would be about 1", which is such a small fraction of the ~ 164" wavelength, that it makes me think that doubling the antenna back on itself this way might lead to total cancellation of signal. But, knowing very little about RF, I would like to learn from others here.





Thanks to any and all who can help me see the wisdom of doing this
(or not). I really can't afford to experiment with the craft in the
air, and I would like to be more firmly grounded in the theory of
what might be occurring. In other words, I wanted to be the only
"grounded" item here, and I want my glider soaring gracefully above me.

Date: 30 Jun 1994 22:05:38 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!jobone!lynx.unm.edu!
cybele.unm.edu!chariya@network.ucsd.edu
Subject: Temp. Conversion Chart: F & C?
To: info-hams@ucsd.edu

In article <199406301318.GAA23064@ucsd.edu>
William=E.=Newkirk%Pubs%GenAv.Mlb@ns14.cca.CR.rockwell.COM writes:
>geez, people make this so complicated.
>
>C = 1.8 (F-32).
>

Oops ! A missprint. It should read C = (F - 32)/1.8.

Date: 1 Jul 94 03:31:33 GMT
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!csulb.edu!paris.ics.uci.edu!ucivax!
gateway@network.ucsd.edu
Subject: Ten Tec PTO rebuild
To: info-hams@ucsd.edu

Anyone out there know how to nicely adjust and "loosen" the action on
the Ten Tec PTO (from Corsair, etc....). I just rebuilt mine, and the

old problem is gone, but I continue to have awful backlash and would like a looser action. Any suggestions? I have added one extra washer (total 3 on each side) to the cup screws in the back.

Clark
WA3JPG

Date: 29 Jun 94 19:21:36 GMT
From: news-mail-gateway@ucsd.edu
Subject: Unsubscribe
To: info-hams@ucsd.edu

Please unsubscribe me from the amateur news service but please continue to send the orbital elenments. The ANS bullitins were being duplicated on our mail server and I didn't want to hog a lot of time.

Thanks. Don, N2CZL.

Date: 30 Jun 1994 22:15:06 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!usenet.ins.cwru.edu!lerc.nasa.gov!magnus.acs.ohio-state.edu!csn!col.hp.com!fc.hp.com!paulc@network.ucsd.edu
To: info-hams@ucsd.edu

References <1994Jun28.112050.7455@powertech.no>, <1994Jun29.201232.12156@auc.trw.com>, <Cs7B2n.58L@isltd.insignia.com>u
Subject : Re: simnplex on two meter

I think "CQ from KG0CZ" is a GREAT idea, much more to the point than the backhanded, too-subtle, "KG0CZ monitoring" call *if you are wanting to strike up a conversation*. Unfortunately, that's not the prevailing style here in CO. So, we need a leader to lead us into new and better operating habits. Who'll be the first to risk embarassment and shame and call CQ on the repeater (not the long-winded form, just the above form)??

I still agree (maybe it's inconsistent) with keeping Q signal use to a minimum on VHF.

-Paul C.   KG0CZ

End of Info-Hams Digest V94 #726

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